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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Fabienne Howe

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08/29/2008

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ALEXANDRIA, VA 22314

EXAMINER

OJURONGBE, OLATUNDE S

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/518,404	Applicant(s) HOWE ET AL.	
	Examiner OLATUNDE S. OJURONGBE	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 11-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 14-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The Amendment to claims filed May 2nd, 2008 has been entered. Claims 1-19 remain pending in the application.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claim 19** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 19 recites the limitation "The process of claim 9, wherein said alkenyl group is a C₂-C₆ alkenyl" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

For the purpose of this office action, claim 19 depends on claim 1.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1-6 and 8-19**, are rejected under 35 U.S.C. 102(b) as being anticipated by Bohin et al (WO98/05723, see English Language equivalent US 6,369,184).

Art Unit: 1796

Regarding **claims 1, 14-17 and 19**, Bohin et al teaches providing a silicone composition suitable for coating (Abstract, lines 3-4); said silicone coating composition consisting of the mixture formed by:

- (1) at least one polyorganosiloxane having per molecule at least two C₂-C₆ alkenyl groups linked to the silicon (col.2, lines 42-43);
- (2) at least one polyorganosiloxane having per molecule at least two hydrogen atoms linked to the silicon (col.2, lines 44-45);
- a catalytically effective amount of at least one catalyst composed of at least one metal belonging to the platinum group (col.2, lines 46-48);
- an adhesion promoter (col.2, line 49);
- optionally a mineral filler (col.2, line 50);
- optionally at least one crosslinking inhibitor (col.2, line 52);
- optionally at least one polyorganosiloxane resin (col.2, line 53);

The formation of the silicone coating composition corresponds to step I of the instant claim wherein the uncured silicone coating composition serves as the liquid silicone preparation (i).

Bohin et al further teaches applying the composition to a substrate and that although the composition is able to crosslink cold it may also be crosslinked thermally and/or by electromagnetic radiation (col.10, lines 18-27); the application of the composition to a substrate and subsequent crosslinking corresponds to step II of the instant claim, wherein the crosslinked silicone coating composition serves as the crosslinked silicone element (i).

Art Unit: 1796

Bohin et al further teaches depositing a second layer or optionally a third layer on at least one side of the substrate material already coated in order to have in total the desired thickness (col.12, lines 33-35), this teaches step(III) of the instant claim, when present, and inherently teaches steps (IV) and (V) of the instant claim.

Steps (IV) and (V) of the instant claim are mere duplication of steps (I) and (II) which are inherently carried out when a second and/or third layer of the silicone coating composition of Bohin et al is deposited on the substrate material.

Bohin et al further exemplifies the silicone coating of the invention (See C1, TABLE I, col.14, lines 30-47). Though Bohin et al does not explicitly teach that the composition of the preparation and the crosslinking conditions of step (II) are being chosen in such a way that the crosslinked silicone element (i) has a surface density SD of unreacted , residual alkenyl groups per nm^2 in the range of the instant claim, the composition C1 of Bohin et al consists of components identical to those of the reference silicone composition of the instant application (see Specification, Page 16, EXAMPLE 1, lines 1-27), combined in the same proportions and crosslinked at room temperature as in the reference silicone composition of the instant claim.

0.003 Vi-Si functional groups per 100g of oil as contained in the high viscosity oil and 0.005 Vi-Si residues per 100g of oil as contained in the low viscosity oil of Bohin et al is the same as 0.08% of Vi and 0.135% of Vi of the reference silicone composition of the instant application respectively.

Calculation:

The vinyl group, represented as $\text{CH}_2=\text{CH}$, has a mass of $(12 + (1 \times 2) + 12 + 1) = 27\text{g}$;

Art Unit: 1796

there are 0.003 Vi-Si functional groups per 100g of the high viscosity oil, hence $0.003 \times 27 = 0.08\text{g}$;

therefore the percentage of Vi in the oil is $0.08/100 \times 100 = 0.08\%$.

Same calculation applies for the low viscosity oil.

Since the reference silicone composition of the instant application has a SD of 0.005 (Specification, Page 18, Table 2, lines 22-25), the silicone coating composition of Bohin et al inherently has a SD of 0.005 because both compositions consist essentially of identical components the only difference being in the amount of catalyst with the type of inhibitor used in the compositions, which bears no effect on the SD of the crosslinked silicone composition.

Regarding **claim 2**, Bohin et al further teaches that the ratio of the number of hydrogen atoms linked to the silicon in the polyorganosiloxane(2) to the total number of groups having alkenyl unsaturation in the polyorganosiloxane (1) and the resin is preferably between 0.6 and 5 (col.8, lines 28-32).

Regarding **claims 3 and 18**, Bohin et al further teaches examples of the polyorganosiloxane (1) to include trimethylsilyl-terminated (methylvinyl)(dimethyl)polysiloxane copolymer (col.7, lines 32-37). For the simplest form of this copolymer represented as $(\text{CH}_3)_3\text{Si}-\text{O}-\text{Si}(\text{CH}=\text{CH}_2)(\text{CH}_3)-\text{O}-\text{Si}(\text{CH}_3)_2-\text{O}-\text{Si}(\text{CH}_3)_3$, there are 16 other radicals for every vinyl radical in the molecule, this inherently teaches a vinyl radical number content of $1/17 \times 100 = 5.88\%$.

Regarding **claim 4**, Bohin et al teaches that in general the coating involves depositing a layer on the side of a flexible substrate material (primary coat) and it may involve depositing a second layer or optionally a third layer on at least one of the sides of the substrate already coated (secondary coat) (col.12, lines 33-40).

Regarding **claim 5**, Bohin et al further teaches that the compositions according to the invention may be used for covering or coating advantageously polyester or polyamide fibres (col.10, lines 28-32).

Regarding **claim 6**, Bohin et al further teaches that the crosslinking (curing) process of the silicone preparation could be carried out for 4 minutes at 150°C in an oven (col.14, lines 54-60); since the coating of the substrate is not done at 150°C and Bohin et al inherently teaches coating the substrate at room temperature (col.10, lines 18-27 and col.13, lines 52-53), one of ordinary skill in the art would have let the substrate undergo a cooling interval before subsequent coatings are applied; said cooling interval is the prolonged interruption of the process of the instant claim.

Regarding **claim 8**, Bohin et al further teaches that the polyorganosiloxane (1) advantageously contain siloxyl functional units of formula 1.1 (col.6, line 46-col.7, line 6).

Art Unit: 1796

Formula (1.1) and formula (1.2) of Bohin et al correspond to formula (1) and formula (2) of the instant claim respectively, in which T as used in formula (1.1) of Bohin et al is the same as W of formula (1) of the instant claim.

Regarding **claim 9**, Bohin et al further teaches that the polyorganosiloxane (2) is preferably of the type of those which contain siloxyl functional units of formula (2.1) (col.7, lines 38-64).

Regarding **claim 10**, Bohin et al further teaches vinyl MDQ resins as examples of resins which are particularly well suitable in the invention (col.6, lines 28-29) and exemplifies a $MM^{vi}DD^{vi}Q$ resin (col.12, lines 60-67). The $MM^{vi}DD^{vi}Q$ resin has the vinyl group carried by siloxy units D and M.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

7. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Bohin et al (WO98/05723, see English Language equivalent US 6,369,184).

Regarding **claim 7**, Bohin et al teaches all the claim limitations as set forth above and further teaches coating compositions C1, C2 and C3 which are different (col.14, lines 30-47 and col.16, line 15-col.17, line 3).

Bohin et al does not teach the process wherein the second and last silicone preparation is different from the first and devoid of hyperalkenylated POS A°.

Art Unit: 1796

When more than one coating layers are applied to the substrate of the invention, one of ordinary skill in the art would have formed the coating layers from any of the coating compositions, C1, C2 and C3, taught by Bohin et al either singly or in combination with other coating layers formed from C1, C2 or C3 by routine experimentations; it has been established that it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose in order to form a third composition to be used for the very same purpose. see *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980).

The compositions of C1, C2 and C3 are devoid of hyperalkenylated POS A^o.

Response to Arguments

8. Applicant's arguments filed May 2nd, 2008, have been fully considered but they are not persuasive.

Though Bohin et al does not explicitly teach the silicone element having a surface density of unreacted residual alkenyl groups greater than or equal to 0.0015 per nm², the examiner notes that this property is an inherent property of the cross-linked silicone element and since the essential components that determine the surface density of unreacted residual alkenyl groups in the composition of Bohin et al is identical to those of the reference preparation of the instant specification (Bohin et al, C1, TABLE I, col.14, lines 30-47 and Instant specification, page 16, Example I), the cross-linked composition of Bohin et al would inherently be expected to contain a surface density of

Art Unit: 1796

unreacted residual alkenyl groups of 0.005 (Specification, page 18, Table 2). The burden is shifted to applicants' to prove otherwise.

Double Patenting

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

Claims 1,4-5, 8-10 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2, 4-5, 7-9 of U.S. Application 10/518344 (now, US Patent No.7423234). Although the conflicting claims are not identical, they are not patentably distinct from each other because of the reasons as disclosed in the prior office action.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLATUNDE S. OJURONGBE whose telephone number is (571)270-3876. The examiner can normally be reached on Monday-Thursday, 7.15am-4.45pm, EST time, Alt Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571)272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1796

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

O.S.O.

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796